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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,515	06/25/2003	Paul Petrus	15685P213	5235

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EXAMINER

AJIBADE AKONAI, OLUMIDE

ART UNIT PAPER NUMBER

2617

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/606,515		PETRUS, PAUL	
	Examiner		Art Unit	
	Olumide T. Ajibade-Akonai		2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-27, 36, 37, 44 and 45 is/are rejected.
- 7) ☒ Claim(s) 28-35, 38-43 and 46-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 24, 2006 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 25, 36 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bringby et al 6,283,883 (hereinafter Bringby)**.

Regarding **claim 25**, Bringby discloses a method for facilitating handover between a base station pair (originating and neighbor BS's, see col. 3, lines 61-67, col. 4, lines 1-8) in a communication system comprising: computing a cost function (hysteresis plus $RSSI_{orig}$, see col. 4, lines 23-28) for the base station pair (BS's of the

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originating and neighbor cell, see fig. 3, col. 3, lines 61-67 and col. 4, lines 1-7)
dependent on a relative received signal strength (RSSI_orig, see col. 3, lines 23-28)
and an adaptive hysteresis factor (hysteresis level, see col. 4, lines 23-28, 39-50 and
col. 5, lines 1-16); selecting a base station from the pair dependent on the cost function
(handoff to a neighbor BS is initiated if the RSSI_orig plus hysteresis is lower than the
RSSI_neighbor, see col. 4, lines 23-28) and a second factor (distance, see fig. 1, col. 1,
lines 34-43), wherein the second factor is either base station load or physical distance
between a user terminal and the base station (the signal strength decreases
exponentially with increase in distance, see fig. 1, col. 1, lines 34-43).

Regarding **claim 36**, Bringby discloses a machine-readable medium having
stored thereon a set of machine-executable instructions (mobile station, MS, see col. 2,
line 56-58) that, when executed by a data-processing system, cause the system to
perform a method for facilitating handover between a base station pair (originating and
neighbor BS's, see col. 3, lines 61-67, col. 4, lines 1-8) in a communication system
comprising: computing a cost function (hysteresis plus RSSI_orig, see col. 4, lines 23-
28) for the base station pair based on a relative received signal strength (RSSI_orig,
see col. 3, lines 23-28) and an adaptive hysteresis factor (hysteresis level, see col. 4,
lines 23-28, 39-50 and col. 5, lines 1-16); selecting a base station from the pair
dependent on the cost function and a second factor (handoff to a neighbor BS is
initiated if the RSSI_orig plus hysteresis is lower than the RSSI_neighbor, see col. 4,
lines 23-28), wherein the second factor (distance, see fig. 1, col. 1, lines 34-43) is either
base station load or physical distance between a user terminal and the base station (the

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signal strength decreases exponentially with increase in distance, see fig. 1, col. 1, lines 34-43).

Regarding **claim 44**, Bringby discloses a processing unit for facilitating handover between a base station pair in a communication system (inherent, since it is well known for a mobile station, MS, to have a CPU, controller or processing unit to accomplish the tasks of receiving the signal strength from the originating and neighbor base stations and calculating the hysteresis factor, see col. 2, line 56-58), comprising: a base station selection unit to select a base station dependent on the inputs from a received signal strength measurement (RSSI) unit (inherent, since it is well known for a mobile station, MS, to have a CPU, controller or processing unit to accomplish the tasks of receiving the signal strength from the originating and neighbor base stations and calculating the hysteresis factor, and based on the calculated hysteresis factor plus the RSSI, initiating a handoff, see col. 2, 56-58, col. 4, lines 1-28), an adaptive hysteresis calculation unit (see col. 4, lines 23-28), and a distance calculation limit (inherent, since the received signal strength decreases exponentially with increase in distance, indicating that the mobile station is able to calculate distance based on the RSSI see fig. 1, col. 1, lines 34-43).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 26 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bringby et al 6,283,883 (hereinafter Bringby)** in view of **Watters et al 20010002822 (hereinafter Watters)**.

Regarding **claim 26**, as applied to claim 25, Bringby discloses the claimed invention except wherein the physical distance is derived from a propagation delay determined from a relative time-of-arrival of a broadcast message transmitted from the base station synchronized according to a common timing reference.

In the same field of endeavor, Watters discloses wherein the physical distance is derived from a propagation delay determined from a relative time-of-arrival of a broadcast message transmitted from the base station synchronized according to a common timing reference (calculation of distance using signal transmitted from base station, see fig. 3, p.3, [0021]-[0022]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Watters into the system of Bringby et al for the benefit of providing a mobile terminal with a GPS receiver for determining location.

Regarding **claim 37**, as applied to claim 36, Bringby discloses the claimed invention except wherein the physical distance is derived from a propagation delay determined from a relative time-of-arrival of a broadcast message transmitted from the base station synchronized according to a common timing reference.

In the same field of endeavor, Watters discloses wherein the physical distance is derived from a propagation delay determined from a relative time-of-arrival of a broadcast message transmitted from the base station synchronized according to a

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common timing reference (calculation of distance using signal transmitted from base station, see fig. 3, p.3, [0021]-[0022]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Watters into the system of Bringby et al for the benefit of providing a mobile terminal with a GPS receiver for determining location.

7. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bringby et al 6,283,883 (hereinafter Bringby)** in view of **Akopian et al 6,466,164 (hereinafter Akopian)**.

Regarding **claim 27**, as applied to claim 25, Bringby discloses the claimed invention except wherein the physical distance is derived from a time-of-arrival of a time-stamped message transmitted from the base station.

In the same field of endeavor, Akopian teaches wherein the physical distance is derived from a time-of-arrival of a time-stamped message transmitted from the base station (see col. 1, lines 13-39).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Akopian into the system of Bringby for the benefit of determining the pseudorange from a receiver to a beacon that transmits a ranging signal.

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bringby et al 6,283,883 (hereinafter Bringby)** in view of **Hashem et al 20030073455 (hereinafter Hashem)**.

Regarding **claim 45**, as applied to claim 44, Bringby further discloses wherein

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the base station selection unit selects the base station dependent on a cost function (handoff to a neighbor BS is initiated if the RSSI_orig plus hysteresis is lower than the RSSI_neighbor, see col. 4, lines 23-28).

Bringby fails to disclose wherein the base station selection unit selects the base station dependent on a base station load input.

In the same field of endeavor, Hashem discloses wherein the selection of a base station is dependent on a base station load input (see fig. 1, p.3, [0007]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Hashem into the system of Bringby for the benefit of providing optimum data communication.

Allowable Subject Matter

9. Claims 28-35, 38-43 and 46-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamalainen (6,363,252) discloses an advanced method for executing handover.

Ward et al WO 02/030135 A3 discloses an adaptive cellular communication handoff hysteresis.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olumide T. Ajibade-Akonai whose telephone number is 571-272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

OA



CHARLES APPIAH
PRIMARY EXAMINER